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tailed work.' In addition, the list contains analyses of more than 800 springs, and, wherever possible, the temperature, volume, and character of each spring are given. Only those who have done similar work can appreciate the amount of thankless drudgery involved in this useful paper.

LETTERS TO THE EDITOR.

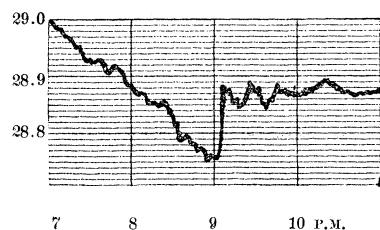
* * * The attention of scientific men is called to the advantages of the correspondence columns of SCIENCE for placing promptly on record brief preliminary notices of their investigations. Twenty copies of the number containing his communication will be furnished free to any correspondent on request.

The editor will be glad to publish any queries consonant with the character of the journal.

Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Barometer exposure.

ABOUT noon of Feb. 18 the barometer at Blue Hill observatory began to fall rapidly, and continued to do so until about 9 P.M. During this fall the wind steadily increased in velocity, and between 8 and 9 P.M. was blowing almost a hurricane. Immediately after 9 P.M. the hurricane-like roar of the wind suddenly ceased. Glancing up at the observatory barograph, I saw that it was rapidly rising, and within two or three minutes had risen more than a tenth of an inch. The barograph is of the Draper pattern, and multiplies three times. The accompanying diagram is a copy of the part of the barograph trace on Feb. 18, showing the rapid rise in pressure referred



to. There was thunder and lightning for about an hour preceding and following this sudden rise.

The following are the wind-velocities in miles per hour for each five minutes as obtained from a Hahn anemograph: —

Time (P.M.).....	8.30	8.35	8.40	8.45	8.50	8.55
Velocities (miles).....	65	60	64	69	71	69

After 9.50 the velocity varied but little for several hours. It is seen that between 9 and 9.05 P.M. there was a sudden decrease in the wind-velocity of about 35 miles, coinciding with the sudden rise in pressure; and, furthermore, each of the less-marked fluctuations of the barograph curve following this is connected inversely with corresponding variations in the wind's velocity.

The change in wind-velocity was evidently connected with the rise of the barograph at 9 P.M.; and the question presents itself, Was the rise of the barograph evidence of an actual existing difference of pressure in the atmosphere, or was it a merely mechanical effect of the wind sucking the air out of

buildings while the wind-velocity was high, and allowing it to flow in again as the wind-velocity decreased?

From what we know of the connection of wind-velocities with barometric gradients, it would be anticipated that such a difference of pressure in the atmosphere as would cause a rise of the barometer at any point to the extent of a tenth of an inch in a minute or two, would give rise to an enormous increase in wind-velocity. But, instead of finding the increased wind-velocity with the rise of pressure, there was just the opposite: hence the inference is, that the rise of the barograph was due to the decreased wind-velocity relieving the stress on the air in the building.

On examining the barograph trace obtained by Professor Davis at the Harvard laboratory, ten miles north of Blue Hill, it is found that an almost identical and equal jump of the barograph curve occurred within a few minutes of the rise at Blue Hill; so that, whatever the origin of the rise, it was evidently due to some general cause acting similarly over a comparatively large area.

The observations of the signal service taken all over the United States at 10 P.M. show that there existed at that time a large cyclonic storm central-north of Lake Superior. The circulation of the wind, as well as the bending of the isobars, also give undoubted evidence of the existence, at the same time, of a small secondary over New England.

An explanation of the sudden decrease of wind-velocity hence suggests itself. Previous to 9 P.M. the vicinity of Boston was on the outer edge of the secondary, where the isobars were greatly crowded and the wind-velocity high; but at 9 P.M. it suddenly entered the progressing central area of the secondary, where the pressure was more uniform, and the wind-velocity immediately decreased. This explanation necessarily involves the assumption that the pressure in the vicinity of Boston was lower after 9 P.M. than preceding it, and the apparent rise was merely a subjective effect due to the wind. No other assumption seems to me reasonable, especially when we find at 10 P.M. the wind over a small area circulating around and centring in toward southern New England.

H. HELM CLAYTON.

Blue Hill meteor. observ., March 25.

On certain electrical phenomena.

I hasten to acknowledge that I unintentionally misrepresented Dr. Shufeldt in one sentence of my

Time (P.M.).....	9.00	9.05	9.10	9.15	9.20	9.25	9.30	9.35	9.40	9.45	9.50
Velocities (miles).....	65	31	36	48	35	15	18	30	37	36	33

letter in *Science*, No. 213. I was wrong in affirming that he stated that he had never observed such exhibitions in Washington; for what he really said was, that he had never observed them as far as his own person was concerned.

I hope Dr. Shufeldt will be equally ready to admit that he has misrepresented me in his reply to my remarks (*Science*, No. 216), where he has omitted the essential part of one of my sentences, and altered the remaining part, even going so far as to include the 'mangled remains' in quotation-marks. Any one who will take the trouble to examine my first letter will see that what I really advised him to do was to critically examine his facts, "possibly eliminating a